Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of )
)
Amendment of Part 73 of the )
Commission's Rules to Permit )Docket No.: MM DOCKET NO. 99-325
The Introduction of Digital Audio)
Broadcasting in the AM )
And FM Broadcast Services )

COMMENTS

May 21, 2002

As an American consumer, as an electrical engineer, and as a licensed Amateur Radio operator, I would like to comment about the proposal to establish digital audio broadcasting (DAB) systems on the existing AM radio band in the USA. My comments refer to the proposed terrestrial digital In-Band On-Channel (IBOC) DAB as proposed by "iBiquity Digital Corporation (iBiquity) and listed in their report titled: "DAB SUBCOMMITTEE – EVALUATION OF THE iBiquity DIGITAL CORPORATION IBOC SYSTEM; Part 2 –AM IBOC". I have followed developments in the AM broadcast band since the 1970's, and I am opposed to the use of the iBiquity IBOC system on the AM band, as this system has currently been proposed in this report.

I am opposed to the use of the iBiquity IBOC-AM system (referred to as "IBOC") on the AM band for several reasons as I will outline my reasons specific to the U.S. AM broadcast band:

1) IBOC-AM is incompatible with the FCC's approved Motorola C-Quam AM stereo broadcasting system in use at over 300 stations in the United States. (Reference FCC ET Docket 92-298 / FCC 93-485 / 8 FCC Rcd 8216).

2) IBOC-AM is not totally "backwards compatible" with all existing high-quality AM radio receivers with a bandwidth exceeding 5KHz (such as GM Delco UX-1 car radios). iBiquity IBOC will occupy more bandwidth (15KHz) than the current NRSC 10.2KHz limit, causing interference.

3) The iBiquity IBOC-AM system will be "unusable" during nighttime AM broadcasting as skywave reception will render their digital signal useless in many areas.

4) The iBiquity IBOC-AM system would substantially lower the quality of existing analog AM broadcasters, who currently can broadcast their audio with a +/-3dB frequency response out to 10,200Hz and would require them to degrade their audio to a poor "telephone-like" 5,000Hz frequency response. This is totally unacceptable to degrade the analog audio to "make the digital sound better".

5) Other types of digital enhancements can be added to all new analog AM receivers, which would incorporate Digital Signal (DSP) processing, noise blanking in both the I.F. and audio stages, and DSP reception of analog C-Quam AM stereo transmissions.

6) I have used a Sony AM stereo home receiver, a Delco automobile radio, and a Chrysler automobile stereo unit, all of which feature analog AM stereo. These

high-quality receivers can each receive radio station WJR-Detroit (760KHz) with "FM-like" stereo quality – in fact, sometimes reception is better than many of the local FM stations in terms of audio quality and stereo separation. With the digital enhancements listed in item #5, particularly noise blanking, the reception of analog AM stereo stations would sound even better.

7) The AM broadcast band should remain analog indefinitely as a "legacy" or "heritage" radio service for the American public. Not only are there hundreds of millions of AM receivers in use, but more importantly, in times of crisis or emergency, an analog AM receiver ("crystal radio") can be constructed from just four common electronic items (ferrite antenna, diode, tuning capacitor, earphone) providing emergency reception.

8) The FCC should mandate that all new technology to be 100% "backwards compatible" so as not to obsolete receivers. The FCC was very insightful and responsible to make NTSC color TV compatible with Black and White televisions; FM stereo is compatible with mono FM radios; C-Quam AM stereo is compatible with mono AM tuners; NTSC TV stereo and SAP is compatible with mono TV receivers. (On a personal note, this is why I feel that HDTV is doomed in the US, as it is not "backwards compatible", but requires the US public to throw their TV sets in the garbage in 2006). The proposed IBOC-AM would cause "digital noise" in the better quality AM tuners, and is therefore not 100% compatible with existing receivers. The FCC must continue to mandate all technical standards for broadcasting in the US, as that is its major role to the American public.

Here are my suggestions for immediately improving the technical quality of AM radio here in the United States without a transition to the proposed IBOC-AM system:

1) Encourage receiver manufacturers to incorporate AMAX receiver standards in all future AM radio receivers (wider bandwidth, noise blanking), and to clearly label these new receivers with "AMAX" or "AMAX-Stereo" if so equipped. In fact, manufacturers could
identify the band switch not as "AM" (or "FM"), but as "AMAX" (and "FM").

2) Encourage receiver manufacturers to utilize digital enhancements all new AM receivers, such as Digital Signal (DSP) processing, noise blanking in both the I.F. and audio stages, and DSP reception of analog C-Quam AM stereo transmissions.

3) Encourage all AM stations to install, or turn-back on, C-Quam AM stereo equipment, particularly those with a music format such as WSM, and WSAI.

4) Have the FCC enforce all Stereo AM broadcasting for all "Expanded Band" stations (1610 – 1700KHz) that indicated a "stereo preference" for their station, to commence stereo AM broadcasts within one year.

5) Have the FCC request, or require, all AM "Class-A clear channel" stations to commence, or restart, C-Quam stereo AM broadcasts within one year. Note: many of these "Class A clear channel" stations already have the stereo equipment in operation (such as WGN, WJR, WLS, WBAP, WPHT), or stereo equipment is installed, but currently turned-off at the present time (at stations such as WFAN, WCCO, WHAS, WBZ, KMOX).

6) I suggest that the FCC should require "digitally-tuned" FM stereo receivers to also include AM stereo meeting AMAX standards. This would not apply to analog tuned, or FM mono radios. Please reference an FCC "PETITION" document

awaiting a docket number, entitled: “Petition for Mandatory AM Receiver Standards” submitted by Mr. Scott Todd (Broadcast Technician and Amateur N0BST).

My closing comment is that I am opposed to the proposed iBiquity IBOC-AM DAB system, and I suggest that the FCC enforce, or encourage, enhanced analog AM radio transmitter and receiver improvements as listed above, that will be 100% compatible with all existing AM receivers. Should a new plan for 100% compatible digital broadcasting on AM be presented that would allow the analog AM stereo to continue (with 10,200Hz frequency response), then I would be happy to review that new system and offer my comments at that time.

Thank you for allowing me to voice my opinions.

Respectfully submitted,
John Pavlica, Jr.